Maryland Historical Trust

Maryland Inventory of Historic Properties number: B-4628

Name: US 40 over Hornets Run

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments: _____

_____

_____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES **MHT No.** B-4628
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. BC 4211 **Bridge name** U.S. 40 over Herring Run (Herring Run Bridge)

LOCATION:
Street/Road name and number [facility carried] U.S. 40 (Pulaski Highway)

City/town Baltimore **Vicinity** _____

County Baltimore

This bridge projects over: Road____ **Railway**_____ **Water** X **Land** ____

Ownership: State _____ **County** _____ **Municipal** X **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ____ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X:
Concrete Arch X **Concrete Slab**_____ **Concrete Beam** ___ **Rigid Frame** _____

Other _____ **Type Name** _____

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DESCRIPTION:
Setting: Urban ___X___ **Small town** _____ **Rural** _____

Describe Setting:

Bridge BC 4211 carries Pulaski Highway (U.S. 40) over Herring Run in Baltimore City. Pulaski Highway (U.S. 40) extends east-west and Herring Run flows north to south. The bridge is located in an industrial area of Baltimore City, approximately 607 meters (2000 feet) west of the Baltimore City-Baltimore County line.

Describe Superstructure and Substructure:

Bridge BC 4211 is a 1-span, 4-lane, filled concrete arch bridge. The bridge was originally built in 1921, and widened in 1933. The structure is 47 meters (154 feet) long and has a clear roadway width of 28 meters (92.4 feet); there are two sidewalks, each measuring 1.5 meters (5 feet) wide. The out-to-out width is 32 meters (104.9 feet). The superstructure consists of one barrel arch which supports a concrete deck and concrete parapets. The arch spans 45.72 meters (150 feet). The structure has solid concrete parapets on the north elevation and pierced concrete parapets on the south elevation. A plaque on the parapet states that the bridge was widened in 1933 by the State Roads Commission. The substructure consists of two concrete abutments. There are four concrete wingwalls. The bridge has a sufficiency rating of 91.8.

According to the 1995 inspection report, this structure was in satisfactory condition with some cracking and spalling. The bituminous concrete roadway is heavily deteriorated with random cracks and potholes. There are several spalls with exposed reinforcement bars in the parapets. The arch intrados has cracks and spalls with heavy efflorescence and exposed reinforcement bars. The abutments and wingwalls are cracked with heavy scaling in the northeast and northwest wingwalls.

Discuss Major Alterations:

According to the 1995 Bridge Inspection Report, the bridge was constructed in 1921 and widened in 1933. The bridge was widened using a concrete arch.

HISTORY:

WHEN was the bridge built: 1921, 1933
This date is: Actual ___X___ **Estimated** _____
Source of date: Plaque __X__ **Design plans** _____ **City/County bridge files/inspection form** __X__
Other (specify): _____

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was the bridge altered?

The bridge was widened to accommodate traffic on the "new" Philadelphia Road (Pulaski Highway), the dual highway from Baltimore to Havre de Grace, which was under construction in the early 1930s.

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:

A - Events ___X___ **B- Person** _____

C- Engineering/architectural character ___X___

The bridge is eligible for the National Register of Historic Places under Criteria A and C, as a significant example of concrete arch construction. The bridge is associated with the widening of Pulaski Highway in the 1930s. The structure has a high degree of integrity and retains such character-defining elements of the type as pierced concrete parapets, spandrel walls, arch barrel and ring, abutments and wingwalls.

Was the bridge constructed in response to significant events in Maryland or local history?

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was

to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

The route of the present Pulaski Highway was traveled as early as 1733, when Poor Richard's Almanac noted the route of the Old Philadelphia Road (State Route 7) on the general course of the present highway. Under pressure from the federal Bureau of Public Roads in the early 1930s, the State Roads Commission planned the construction of a new road from Baltimore to Havre de Grace, in lieu of widening the old Philadelphia Road. In 1935, the "new" Philadelphia Road opened as Maryland's first dual highway, and was christened the Pulaski Highway.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

Unknown

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Is the bridge a significant example of its type?

The bridge is a potentially significant example of a concrete arch bridge, possessing a high degree of integrity.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including pierced parapets, spandrel walls, arch barrel and ring, concrete abutments and wingwalls, however some deterioration is evident. The bridge widening in 1933 retained the character defining elements of a concrete arch.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the State Roads Commission in the 1930s.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

City/County inspection/bridge files X **SHA inspection/bridge files** _____
Other (list): _____

Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland*. Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

State Roads Commission
1958 A History of Road Building in Maryland. Published by author,Baltimore.

Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways*. The Myron C. Clark Publishing Company, Chicago and New York.

SURVEYOR:

Date bridge recorded December 1997
Name of surveyor Wallace, Montgomery & Associates / P.A.C. Spero & Company
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1635 **FAX number** (410) 296-1670

Maryland Historic Highway Bridges

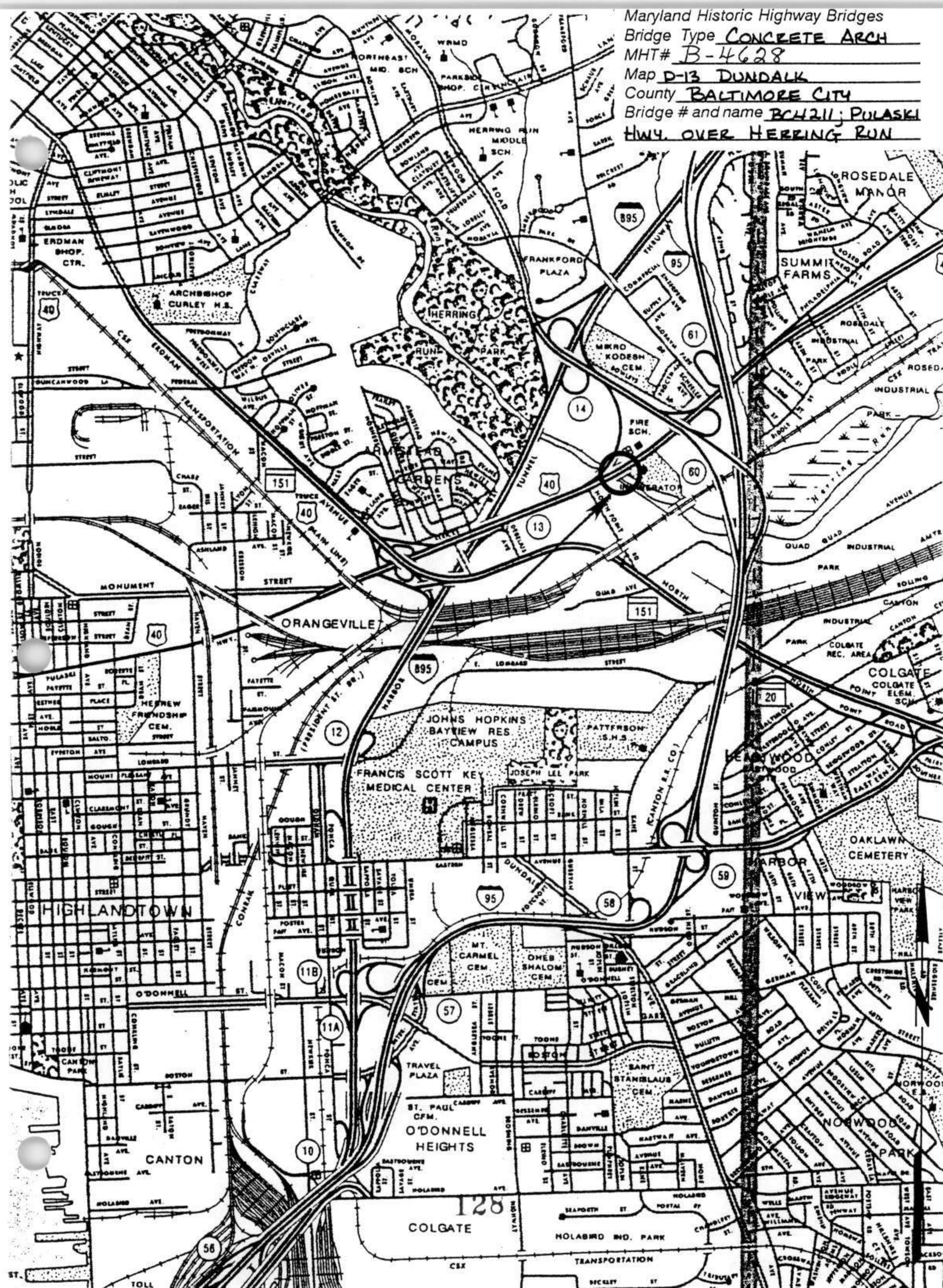
Bridge Type CONCRETE ARCH

MHT# B-4628

Map D-13 DUNDALK

County BALTIMORE CITY

Bridge # and name BC4211; PULASKI HWY. OVER HERRING RUN



ROSEDALE MANOR
SUMMIT FARMS
FRANKFORD PLAZA
ERDMAN SHOP. CTR.
ARCHBISHOP CURLEY H.S.
HERRING RUN PARK
HERRING RUN MIDDLE SCH.
NORTHEAST MID. SCH.
MIKRO KODESH CEM.
FIRE SCH.
ARMISTEAD GARDENS
ORANGEVILLE
MONUMENT
STREET
TRANSPORTATION
JOHNS HOPKINS BAYVIEW RES. CAMPUS
FRANCIS SCOTT KEY MEDICAL CENTER
JOSEPH LEE PARK
PATTERSON S.H.S.
HEBREW FRIENDSHIP CEM.
HIGHLANDTOWN
COLGATE
COLGATE ELEM. SCH.
OAKLAWN CEMETERY
HARBOR VIEW
MT. CARMEL CEM.
OHEB SHALOM CEM.
SAINT STANISLAUS CEM.
TRAVEL PLAZA
ST. PAUL CEM.
O'DONNELL HEIGHTS
CANTON
NORWOOD PARK
HOLABIRD IND. PARK
128

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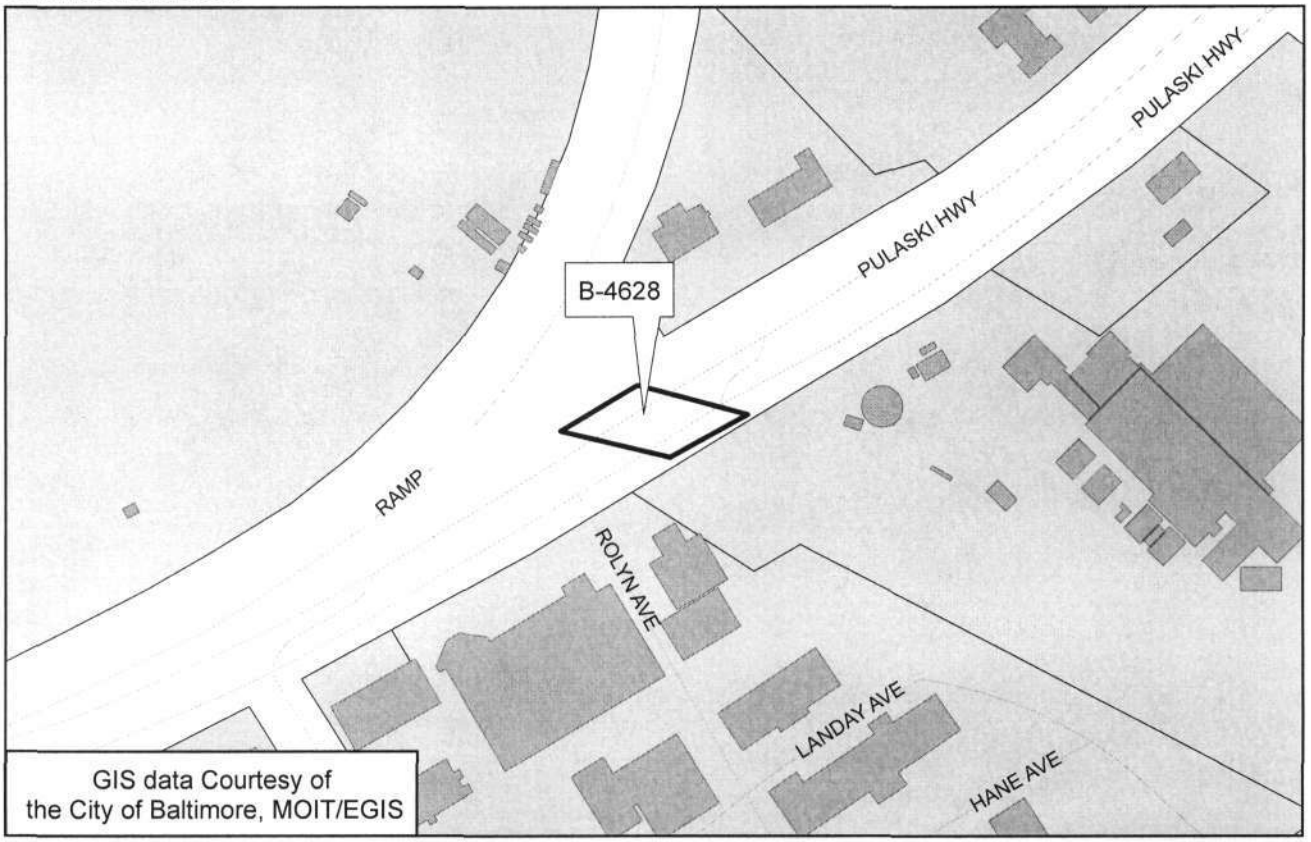
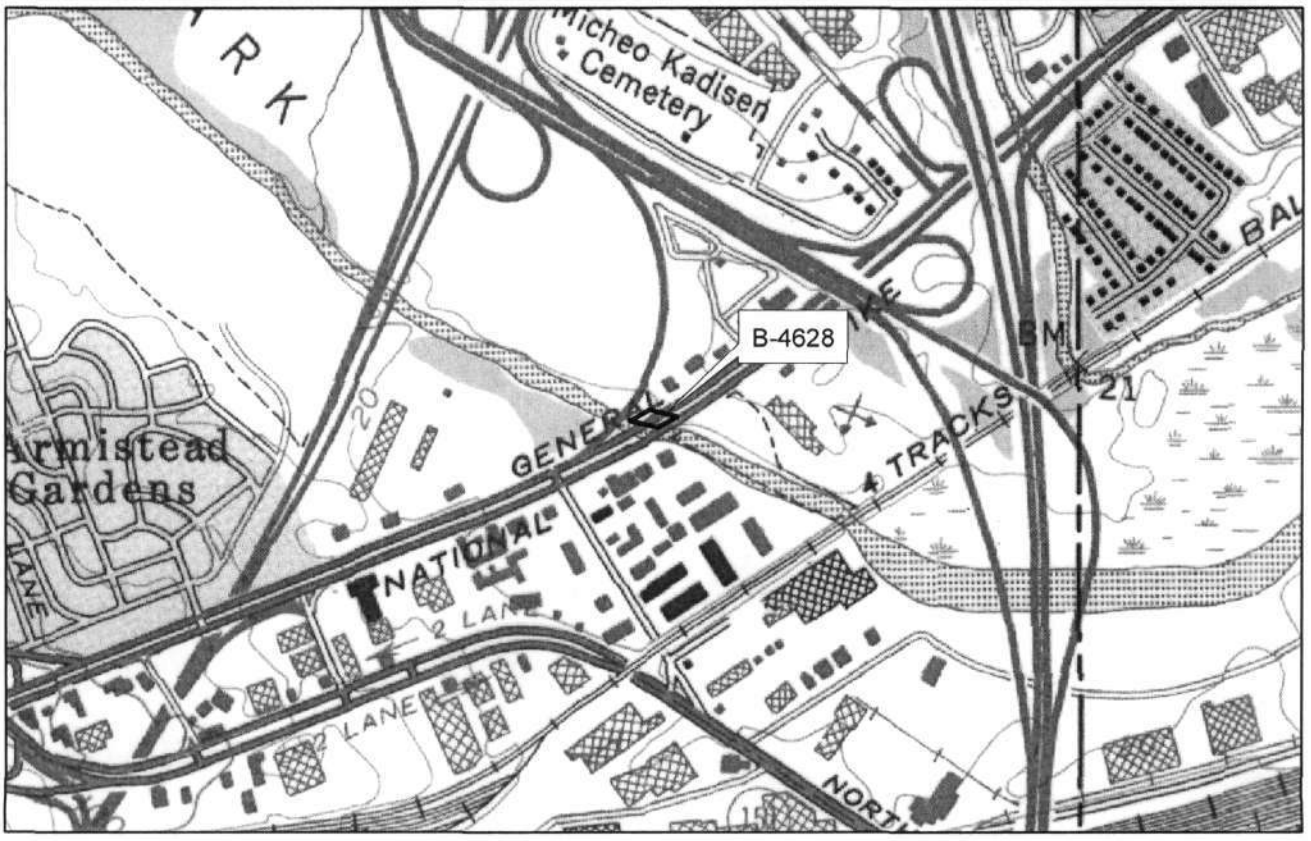
Herring Run Bridge, Bridge BC 4211
(US 40) over Herring Run
Baltimore City
Baltimore East Quad






Bureau of Transportation
TOWING DIVISION

Inventory # B-4628

Name 4211-PULASKI HWY OVER HERRING RUN
County/State BALTIMORE CITY/MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description WEST APPROACH

Number 128 of 375

Inventory # B-4628

Name 4211 - PULASKI HWY OVER HERRING RUN
County/State BALTIMORE CITY / MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description EAST APPROACH

Number 2 ~~29~~ of ~~37~~ 5


HERRING RUN BRIDGE
WIDENED — 1933
STATE ROADS COMMISSION
G. CLINTON UHL — CHAIRMAN.
E. BROOKE LEE. ROBERT LACY
H. D. WILLIAR, JR. — CHIEF ENGINEER.
W. C. HOPKINS — BRIDGE ENGINEER.

Inventory # B-4628

Name 4211- PULASKI HWY OVER HERRING RUN
County/State BALTIMORE CITY | MD
Name of Photographer TIM SCHOEN
Date 1 | 95

Location of Negative SHA

Description ID PLAQUE @ WEST END OF SOUTH PARAPET

Number 3 ~~30~~ of ~~37~~ 5

Inventory # B-4628

Name 4211-PULASKI HWY OVER HERRING RUN
County/State BALTIMORE CITY / MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description SOUTH ELEVATION

Number 4 ~~31~~ of ~~34~~ 35


BRAKES
6501
ALIGNMENT
Kimmel Truck Tire Cente

Inventory # B-4628

Name 4211-PULASKI HWY OVER HERRING RUN
County/State BALTIMORE CITY/MD
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description NORTH ELEVATION

Number ~~32~~ 5 of 37 5